Date: **Wednesday, July 18, 2007**

To: Office of the Secretary
Federal Communications Commission
445 12th Street SW, TW-A325
Washington DC 20554

Re: Coordination of Microwave Links under Part 101 of the Commission's Rules
WTB Docket No. 07-121
DA 07-2684

AirTegrity Wireless, Inc. is in favor of the Request for Declaratory Ruling filed by WSI and referenced in WTB Docket No. 07-121 (DA 07-2684).

We support WSI's contention that Fixed Microwave Systems deployed with Distributed Radiating Elements ("smart antennas") would operate within the commission's rules and would not interfere with surrounding users.

As asserted by WSI, smart antenna technology coupled with TDMA systems, such as those developed by our company, can be deployed in ways that meet the requirements of 47 CFR Section 101.115 and in fact not interfere with surrounding users. All the information is known by the proposed licensee or existing licensee to operate an antenna system (with or without DREs) per its design, regulation and operator license requirements. In the case of antenna systems with DREs, the interference at the input of any victim receiver from any DRE will always be less than the interference from the related coordinated antenna system or 6dB below the victim receiver's thermal threshold (the coordinated antenna system interference governs).

In particular:

- Smart antenna systems are designed to focus RF energy into a very narrow main lobe to enhance performance. Current smart antenna technology enables the construction of antennas that exhibit main lobes that are substantially narrower than those of passive antennas (i.e. parabolic dishes), meeting the requirements set forth in the Antenna Standards table of Section 101.115. See http://www.iec.org/online/tutorials/smart_ant/topic03.html. WSI's request opens up a very large US market for "smart" antennas and TDD-packet (802.16 based) products. Once given the opportunity, the industry will develop innovative products.

- Smart antenna systems coupled with advanced Operational Support Systems (such as Proximetry's AirSync) are able to manipulate the narrow main lobe such that it is directed at the receiving station.

- In addition, smart antenna systems are able to manipulate not only the main lobe, but also the portions of the pattern with the least gain (the "nulls"). This enables an intelligent OSS to direct the nulls towards any other licensee adding additional margin of interference protection over and above those set forth in the part 101 rules.

- Smart antenna systems support enhanced channel estimation which, among other things, enables the radio system to transmit with the minimum power required for error free reception, reducing interference potential over passive systems.

These characteristics of smart antennas are just some of the reasons that advanced wireless communication standards such as WiMAX, LTE, and NG-PHS mandate that multiple antenna systems are employed.

In addition to operating within the rules and not interfering with other licensed users, granting the requested declaratory ruling to permit deployment of smart antenna technology yields additional benefits including

- Deployment of additional service(s) without requiring any additional spectrum;
- Service provisioning and activation time reduced from weeks to hours;
- Increased competition for broadband delivery -- or end-user service in places where it is not presently available,
- Less demand on Commission licensing resources;
- Large and expensive antennas not required for the subscriber end of concurrently coordinated links;
- Suitable for inexpensive (WiMAX) equipment;
- Additional subscriber (retail) revenue increases the provider's return on investment, and;
- Lower user prices overall.

And finally, the grant of the requested declaratory ruling will directly support stated Commission goals:

- To maximize efficient use of spectrum;
- To minimize regulation where appropriate, and;
- To facilitate innovative service and product offerings[1]

1. The Commission is under increasing demands to accommodate more users in existing spectrum. Through innovation, it is now possible for industry to make more effective use of co-frequency spectrum in near proximity to a Fixed Service transmitter to support both the traditional base of critical infrastructure and business communications, and also incoming services (WiMAX) and future advanced services (4G and beyond). A ruling to confirm that antennas with distributed radiating elements are permitted under Part 101, as described above, will put that wasted spectrum into productive service.

To directly address the the objections filed by FWCC and Verizon:

FWCC:

1. **Assertion:** Does not prove that WSI's solution meets the requirements set forth in 47 CFR Section 101.115.
   Response: WSI's request specifically states it will (must) meet 101.115. The Rules specify the RPE of the antenna system, not parts of the antenna system. DRE's are a part just as a feed horn of a 'dumb" dish antenna is a part of a dish antenna or dipoles are a part of a phased array. Feed horns or dipoles will not meet Part 101.115 but they do not have to. It is the antenna RPE in its totality that must meet 101.115. Antennas with distributed radiation elements must, as stated above, meet the requirement. The request and the Commission leave the "how" up to industry to innovate to meet the requirement.

Verizon:

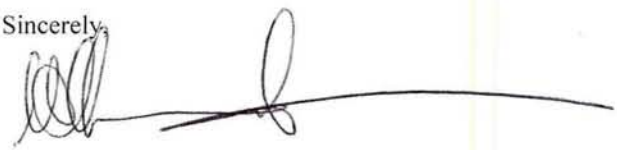
1. **Assertion:** The approach is prohibited by the commission's rules.
   Response: The approach is not prohibited under the rules. WSI can not prove a negative. Verizon must specify what part of the rules do prohibit this approach.

2. **Assertion:** It is inconsistent with the Fixed Services' licensing methodology.
   Response: Again, the approach is not prohibited under the rules. WSI can not prove a negative. Verizon must state what methodology is inconsistent with the rules.

3. **Assertion:** It could cause interference to surrounding users.
   Response: WSI's request specifically states it must comply with the rules regarding coordination (interference).

Please place this response, in support of the Proposed Declaratory Ruling, in the Docket.

Sincerely,



Howard Amundsen
Vice President of Business Development
AirTegrity Wireless, Inc
P.O. Box 5188
276, Kingsbury Grade, Suite 206
Stateline, NV 89448-5188